

1. The number is 40 because

it is a factor of 1000 it isn't a factor of 100 it is a multiple of 5 and has fewer numbers than 3 digit so it is 40. I found the number by timings numbers by each other like this

$$40 \times 50 = 2000$$

$$20 \times 45 = 900$$

$$40 \times 25 = 1000$$

So it would be 40.

2. a)	A	B
	10, 10, 10, 10, 10, 10	20, 20, 20
	5,5,5,5,5,5,5,5, exc	2,2,2,2,2,2,2,2,exc

b) The dimension with the greatest area is 30 because on the chart the highest number and therefore it is has the greatest area.

3. a)  $1^2 = 1$  40-50

$$2^2 = 4 \quad 40 = 31 + 3^2 = 31 + 9$$

$$3^2 = 9 \quad 41 = 5 + 6^2$$

$$4^2 = 16 \quad 41 = 5 + 36$$

$$5^2 = 25$$

$$6^2 = 36$$

$$7^2 = 49$$

b)  $47 = 4^2 + 31$

4. a) 9,4 ,1 start at  $7^2$  and reduce the base by 1 each time

b) 63, 127, 255 start at 3 double it then add 1 each time

c) 7776, 46 656, 279 936 start at 6 multiply by 6 each time

5.a) 1:2

b) 1:2

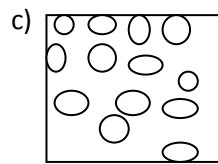
c) 1:5

6.a) Carla by comparing equivalent ratio's Carla has the most hits : 45.60

b) Irina has the least scores : 45: 60

7. a) 12

b) 9:15 or 3.5



9.a)  $2 \times 1 = 2 \text{ cm}^3$

b)  $5.5 \times 3.5 = 192.5 \text{ cm}^3$

c)  $0.3 \times 0.3 = 0.9 \text{ cm}^3$